IMPERIAL ENTOMOLOGICAL
23 AUG 1943
INSTITUTE

REPORT

ON THE

DEPARTMENT OF AGRICULTURE

ST. LUCIA,

1942.

[Price Sixpence.]

ST. LUCIA.
PRINTED BY THE GOVERNMENT PRINTER AT THE GOVERNMENT PRINTING OFFICE
1943.

REVISED PRICES OF NURSERY PLANTS AND SUPPLIES.

1. The prices of plants do not include the cost of the box or package, for which a charge will be made if not returned to the Department. The cost of delivery will, as far as possible, be included in the prices, but it must be understood that this is a matter entirely in the discretion of the Agricultural Superintendent.

2. All prices specified are for plants of standard quality. The prices of plants not included in this list will be fixed by the Agricultural Superintendent.

3. An addition of 100 per cent. is made on the price of all plants supplied for export from the Colony.

4. No plants are supplied on public holidays.

5. At least six months previous notice must be given when large numbers of such plants as bananas, coconuts, coffee, cacao, nutmegs, citrus, cane plants, &c., are required. All such orders should be in writing, and verbal or telephone messages should be confirmed in writing. In default of this rule such orders may not be attended to.

6. All orders will be supplied subject to the discretion of the Agricultural Superintendent and no responsibility is taken in regard to quality or quantity of plants after despatch from the Nurseries.

7. Complaints as to the quality or quantity of plants, &c., supplies, or as to the prices charged, should be made in writing to the Agricultural Superintendent at the time of delivery.

ALL PLANTING MATERIAL MUST BE PAID FOR BEFORE DELIVERY.

I. PLANTS.

	s.	*d.*	
Banana Plants (sections or suckers)		1	per plant (delivered at Quilesse Nursery)*
Oranges Budded		4	per plant.
Oranges Sour		6	per hundred.
Grapefruit Budded		4	per plant.
Lime Plants Budded/Grafted		4	per plant.
Mangoes Budded/Grafted		6	to 1*s.* per plant.
Coffee Plants	1	0	to 2*s.* per hundred.
Cacao Budded		6	per plant.
Nutmegs Grafted		6	per plant.
Avocado Pears		2	to 3*d.* per plant.
Avocado Grafted		6	per plant.
Cane Plants	1	0	per hundred (delivered at Nursery)
Pineapple Plants		1	to 3*d.* per plant.
Casuarina	2	0	per hundred.
Casuarina (in pots)		2	each.
Palms (various)		3	per plant.
Ornamental Plants (various)		2	to 1*s.* per plant.
Seeds (various)		2	and 3*d.* per packet.
Plants for windbreaks, hedges, &c., other than the above mentioned	2	0	per hundred.
Plants for windbreaks, hedges, &c., other than the above mentioned (in pots)		2	each.
Fodder Plants	1	0	to 2*s.* per hundred (delivered at Nursery)
Cover Crops and Green Manures		2	per lb.
Grass	1	0	per sugar bag.

* Transport charges from Quilesse to Mahaut to point of delivery are extra.

STAFF OF THE DEPARTMENT OF AGRICULTURE, ST. LUCIA.

E. T. WARD, Dip. Agric. (South Africa)	...	Agricultural Superintendent and Land Officer.
G. B. GREGORY, Dip. Agric. (I.C.T.A.) ...	...	Assistant Agricultural Superintendent and Chief Fruit Inspector.
G. M. GLASGOW ...	...	Agricultural Officer Class I and Fruit Inspector.
C. M. ALEXANDER ...	...	Agricultural Officer Class II and Fruit Inspector.
L. BEAUBRUN ...	...	Agricultural Instructor.
D. GLASGOW * ...	...	Banana Instructor.
A. V. MONDESIR † ...	...	Foreman Union Station.
G. M. CAMPBELL ‡ ...	...	,, ,, ,,
Miss E. T. BOUTY ...	...	Chief Clerk and Accountant.
J. F. GIRARD ...	...	Second Clerk.
D. E. GAJADHAR ...	...	Copyist.

* Resigned 18.12.42. † Resigned 31.1.42. ‡ From 1.2.42.

CONTENTS.

		Page.
SECTION I.—Agriculture in the Colony	... ...	1
General Situation	... ...	1
Weather Conditions	... ...	1
General Conditions & Progress in the Chief Industries	...	1
Sugar. Molasses & Rum. Coconuts. Limes. Cocoa.		
Minor Agricultural Industries	... ...	3
Bananas. Fresh Fruit. Vegetables & Ground Provisions. Cotton. Other Crops	... ...	3
Bee-Keeping. Forest Products. Fishing. Livestock	...	5
Soil and Forest Conservation	... ...	6
Importation of Foodstuffs	... ...	7
SECTION II.—Work in the Department of Agriculture	... ...	8
Plant and Seed Introduction	... ...	8
Work at the Union Agricultural Station	... ...	9
Government Stock Farm, Union Station	... ...	10
SECTION III.—Plant Nurseries. Pests and Diseases	... ...	11
Agricultural Extension and Education	... ...	12
Publications, Correspondence, and Organisations	... ...	13
Official Visitors and Staff	... ...	13
Legislation affecting Agricultural Industries	... ...	13
Rainfall Returns.		

SAINT LUCIA.

Report of the Department of Agriculture for year ended December 31st, 1942.

AGRICULTURE IN THE COLONY.

General Situation.

1. Alternative employment, particularly that associated with the construction of the two United States Air Bases in the Colony, continued to affect seriously estate and peasant agricultural work, although there was a noticeable improvement in the position during the last quarter of the year as employment on the Bases diminished.

Weather Conditions.

2. The rainfall was considerably above average, but precipitation was generally well distributed, and only minor landslips, flooding and road blockages occurred; conditions were rather wet for optimum crop production in the high elevation areas, but were more favourable in the coastal areas. Sultry and humid weather characterised the period April to October, the periods January to March and November and December were fairly cool.

GENERAL CONDITIONS AND PROGRESS IN THE CHIEF INDUSTRIES.

Sugar.

3. Earlier conditions gave promise of another record crop being obtained, and although this did not materialise mainly on account of the shortage of labour during reaping, especially at Vieux-Fort, production amounted to 8,780 tons of sugar. A total of 86,520.2 tons of cane was ground by the four factories, as compared with 91,181.6 tons of cane ground and 10,125.48 tons of sugar produced in 1941. Labour difficulties tended to delay the reaping and processing of cane which in turn reflected on factory efficiency: some 311.25 acres of Spring cane had to be left unreaped owing to the lateness of the season. The usual cultivation and manuring of canes was restricted also, which may have an unfavourable effect on yields next year.

4. B.H. 10/12 and B. 2935 continue as the standard varieties for wet and dry areas respectively, but commercial seedlings B. 37161, B. 34104, B. 726, B. 3013, B. 3439, B. 35207 and B. 35247 are being fully tested under field conditions; so far B. 37161 shows promise of replacing B.H. 10/12 as the standard wet area variety in the near future.

5. Owing to developments involving further acquisitions of land for the U.S. Air Base at Vieux-Fort, the Barbados Settlement Coy. found it could no longer operate satisfactorily, and in October it was decided to abandon further activities and wind up the Company. Incidentally, this brings to a close a period of about 55 years of sugar cultivation in this locality.

6. The St. Lucia Sugar Association was formed in August, 1942 and is affiliated with the British West Indies Sugar Association (Incorporated).

Molasses and Rum.

7. The quantity of molasses produced was 310,200 gallons (342,600 gallons in 1941); very little was exported on account of shipping restrictions, the bulk being converted into rum for local consumption.

8. A total of 35,940 gallons of fancy molasses was produced (33,644 gallons in 1941), but in spite of a satisfactory contract having been made with an American firm, followed by strenuous efforts to obtain shipping space, it proved impossible to export it. Producers were naturally disappointed, and no further fancy molasses is likely to be produced, at any rate until normal conditions are restored; fortunately in both cases the producers can turn to alternative production of local value.

9. Production and export of sugar manufactures for the year are shown below:—

Product.	Produced.	Exported.	Value. £
Sugar	8,780 tons	5,684 tons	56,292
Molasses	310,200 gals.	2,779 gals.	25
Fancy Molasses ...	35,940 ,,	—	—
Rum	72,472.2 gals.	1,516 gals.	316
Total Value ...	...	...	£56,633

Coconuts.

10. Weather conditions more favourable to production were experienced and most estates recorded good yields. Both coconuts and copra were in great demand throughout the year at encouraging prices, but the absence of shipping and shortage of labour combined to prevent adequate advantage being taken of the position. The shortage of labour also resulted in large numbers of nuts spoiling under the trees.

11. As the year advanced and labour conditions tended to improve efforts were directed solely to copra manufacture, but the lack of drying facilities restricted the effort. At this juncture the Malayan-type copra drier was introduced with the co-operation of two coconut growers, who carried out the initial trials. Its value was quickly recognised, not only because it produced a good quality of copra in a shorter time, irrespective of weather conditions, but also due to its low cost and easy construction, almost wholly from local materials. Further experience is necessary under local conditions before additional information can be obtained, but already other coconut estates are arranging to construct one or more of these driers, and consequently a considerable increase in copra production during 1943 is anticipated.

12. The contract with the Trinidad Coconut Growers' Association for the processing of St. Lucia copra into edible oil for local consumption operated throughout the year, and a new contract has been made for 1943. The contract price paid throughout the year was £18 13 4 per ton c.i.f. 22,950 Imperial gallons of coconut oil were imported by the St. Lucia Coconut Growers' Association during 1942 and sold to retailers; in addition 20 tons of coconut meal were imported and sold to local stock owners.

13. There was some increase in small-scale and primitive oil production locally; the largest local plant (operating on improved lines) purchased 95 tons of copra and manufactured 10,552 Imperial gallons of oil and 48 tons of coconut meal for local use. A small soap factory purchased 30 tons of copra as well as local oil, and manufactured 43,350 lb. of laundry soap during 1942.

14. The area under coconuts is estimated at 4,600 acres.

15. The export of coconuts and copra during 1942 was as follows:—

Coconuts	...	880,270 nuts valued at	£3,304
Copra	...	319½ tons valued at	6,842
Total value	...	...	£10,146

Limes.

16. While in some areas a good crop was obtained, conditions were not as favourable in others (partly due to a shortage of labour for adequate cultivation), but all areas enjoyed comparative freedom from citrus weevil and wither-tip disease. Export production for 1942, however, estimated in barrels of limes, amounted to the exceedingly low figure of 10,825 barrels valued at £9,256 (1941—25,251 barrels valued at £17,609). The usual exports of green limes were restricted by the lack of shipping, and the crop was allowed therefore to ripen before being collected for conversion into lime oil and settled juice. From September onwards exports of settled lime juice to the United Kingdom market were prohibited, and although a considerable quantity of lime juice had been shipped by then a fair balance remained; the restricted export of these two commodities naturally affected the volume and value of the industry. The demand for distilled lime oil remained firm and the average price realised for sales through the West Indian Lime Oil Sales Coy., Trinidad was 33*s.* to 34*s.* per lb. c.i.f.

17. 3,035 lime plants budded on wild Grapefruit stocks were distributed to planters for the first time. So far nursery results with wild Grapefruit stocks are not proving as successful as with Sour Orange stocks.

18. Exports of lime products during the year were as follows:—

Green limes	...	...	185 barrels
Lime juice settled	...	...	19,614 gallons
,, ,, concentrated		...	173 ,,
Lime Oils:			
Distilled	...	...	4,090 lb.
Handpressed	...	...	240 ,,

Cocoa.

19. Picking of the 1941/42 crop was completed around March, and although earlier conditions were not promising a fair crop was harvested. The 1942/43 crop has been affected to some extent by periods of heavy rains in the wetter areas, but an average crop is expected from coastal estates.

20. Exports during the year amounted to 3,877 cwts. valued at £7,820 (1941—3,889 cwts. valued at £6,300). Local prices offering were 45*s.* per cwt. for estate cocoa, and around 2*d.* per lb. for ordinary cocoa.

21. In November notification was received from the Secretary of State that it would not be possible to market any of the 1942/43 crop in the United Kingdom; efforts are therefore being made to find a suitable market for the crop in Canada or the United States.

MINOR AGRICULTURAL INDUSTRIES.

Bananas.

22. Only two shipments of fruit were possible during the year, one in January and one in February; exports to Canada totalled 1,738 stems equivalent to 1,217 counts; small quantities were exported to Barbados also. Owing to employment offering at the U.S. Bases and the cessation of shipping facilities, very little attention has been paid to this crop for some time, and

although a fair amount of production is absorbed locally this represents fruit cut from the older and more accessible gardens only. It is doubtful whether there are as many as 500 acres under bananas at present, a large proportion of which are in a semi-abandoned condition.

23. This virtual abandonment of cultivation has naturally resulted in a significant increase in the incidence of Panama Disease, efforts to control which by the Department were restricted by other duties.

Fresh Fruit Trade.

24. Exports of fresh fruits were confined to some of the neighbouring islands, particularly Barbados, but shipping space was uncertain and irregular owing to the limited number of sailing vessels plying, and the quantity of other more important or remunerative freight. Fortunately, there was an active local demand for fresh fruits at satisfactory prices and this prevented any undue wastage.

25. 578 crates of mangoes were exported valued at £117, also 43,152 lb. tamarinds valued at £218, and 1,881 packages of miscellaneous fruits valued at £288.

Vegetables and Ground Provisions.

26. Produce to the value of only £163 was exported during the year, as compared with £1,134 in 1941, the principal items being pumpkins and farine.

27. There was considerable improvement in the food production effort over 1941, particularly during the last quarter of the year when employment at the U.S. Bases diminished, but it is necessary that there should be a further increase in both quantity and variety of local produce in 1943, if a desirable standard of self-sufficiency is to be reached. To this end it was deemed advisable to introduce a system of compulsory food planting under the Defence Regulations in August. The demand for fresh vegetable seed is keen and an extension of fresh vegetable cultivation is noticeable, particularly in the Soufrière district, where one estate owner alone has several acres under cultivation to assorted vegetables, mainly for supply to the military forces stationed in the Colony.

Cotton.

28. Some 38 acres of the Montserrat strain of cotton were planted for the 1941/42 crop with satisfactory results. A total of 34,718 lb. of seed cotton were purchased at the local ginnery from which 11,821 lb. lint were obtained; ginning outturn 34%. Yield of lint was 311 lb. per acre. All lint was purchased by the British Government at brokers' valuation and realised 1*s.* 10½*d.* per lb. f.o.b. Seed of the Montserrat strain of cotton could not be obtained in time for planting in the 1942/43 season, and about 30 acres were planted to the St. Vincent strain instead. Cotton exported during 1942 amounted to 11,361 lb. lint valued at £1,065.

29. A close season for cotton was observed from 1st May to 31st August under the Cotton Ordinance; no recurrence of pink bollworm found last season was observed.

30. In view of the existing market for this crop at a fair price, it is to be hoped that more peasants in suitable areas will engage in cotton cultivation.

Other Crops.

31. *Coffee.* Local market requirements are increasing, and more coffee —Liberian—is being planted to supply this demand. The price advanced to 1*s.* per lb. retail for local coffee.

32. *Corn.* Production was on a very small scale during the year, but the regular demand for cornmeal certainly justifies greater attention to the growing of this crop.

33. *Tobacco.* Small areas only were planted for local sale.

34. *Spices.* Shipping difficulties hindered the exportation of these crops comprising nutmegs, vanilla, cloves, mace and ginger, and the export value amounted to only £354 (1941—£630).

Bee-Keeping.

35. A good deal of enthusiasm continues to be displayed in bee-keeping by certain estate owners and peasants. Another good honey crop was obtained, exports amounting to 111,155 lb. of honey valued at £2,026 and 183 lb. beeswax valued at £13 (1941—107,884 lb. honey valued at £1,904 and 155 lb. beeswax valued at £6); this represents a further increase in production, but is still below the record year of 1926. Exports would have been higher, however, as part of the honey crop remains unsold, following the prohibition of further importations into the United Kingdom owing to the lack of shipping facilities. Local prices for honey averaged 16*s.* 8*d.* per tin (56 lb.).

Forest Products.

36. As supplies of imported lumber are now almost unobtainable, local timber resources are being increasingly exploited, and it is fairly certain that the present rate of supply cannot be maintained much longer. The average price for timber has risen from 2*d.* per foot (12″ × 1″ boarding) to 4½*d.* per foot. The export of forest materials increased in value from £1,664 in 1941 to £2,162 this year, mainly due to a considerable increase in the manufacture of charcoal for the Barbados market.

Fishing Industry.

37. Fish supplies were inadequate throughout the year, and frequently the catches were so small that only a very limited number of people were able to obtain fish. Admittedly there has been a considerable increase in the demand for fresh fish owing to the irregular and limited importations of salt fish and salt meats, but the fishing effort appears to require further qualified investigation to enable the industry to develop its opportunities to better advantage.

Livestock.

38. It is encouraging to be able to record the amount of interest which all sections of the community are showing in the raising of livestock, particularly in the more prolific small stock such as pigs, sheep, goats, rabbits and poultry; if this interest is maintained it should augur well for essential meat supplies in the future. Prevailing prices offer good inducement, and there is an almost insatiable market locally and in the neighbouring islands. Supplies of meat, poultry and eggs were limited throughout the year and, except for a seasonal increase in egg supplies, were totally inadequate to meet the increased demand.

39. Experience clearly shows, however, that livestock can only be raised successfully where proper attention is given to feeding, including adequate use of mineral mixture, and the regular control of intestinal parasites (worms), which are a constant menace to stock in this Colony.

40. The dairy industry has been raised to an improved standard with the example set by two dairymen and a small owner in constructing modern type cowsheds for their animals; the largest cowshed has capacity for 28 cows,

the other two have capacity for 12 and 8 cows. Further improvements by these, and other owners, are planned for after the war.

41. Legislation was introduced prohibiting the slaughter of female cattle, except by permit in the case of aged or barren animals.

42. The Swine Fever epidemic came to an end early in 1942, since when no further cases or deaths have been reported, but pig owners have been warned not to forget the possibility of further sudden outbreaks occurring at any time; this possibility can, however, be greatly minimised if pigs are kept under reasonably controlled conditions, preferably in an enclosure, but the peasant is unwilling yet to follow this precaution. The Department has commenced the inoculation of pigs (as far as staff will permit) against Swine Fever, using Crystal Violet Vaccine.

43. Several estate owners, including two sugar estates, have set good examples in the goal to rear more livestock by promoting pig raising; by the end of the year one of the sugar estates had constructed a modern type of piggery and had obtained five breeding sows; the other estate will commence on similar lines early in 1943. Both these estates also intend to commence the raising of beef animals during 1943, as preparations can be made and breeding animals obtained.

44. Exports of stock during the early part of the year were as follows:—

1942.

	Quantities.	*Values.*
Horses	3	£25
Asses	8	40
Mules	1	5
Cattle	9	53
Total ...		£123

45. Several importations of improved breeding stock were made by estate owners from neighbouring islands.

Animal Inspection Service:

46. Animal importations into the Colony were as follows:—

Poultry ...	18
Goats ...	7
Cattle ...	6
Horses and donkeys ...	5
Sheep ...	3
Dogs ...	2

Nine (9) export certificates were issued for animals leaving the Colony.

Soil and Forest Conservation.

(a) *Crown Lands Allocations:*

47. Nine applications totalling 70½ acres, outstanding from 1941, were approved for sale.

(b) *Soil Conservation:*

48. Direct and indirect employment arising from the two U.S. Air Bases and other avenues of employment continued to have a retarding influence on agriculture generally, and it is not surprising therefore that there should be no progress to report with soil conservation work on estates and peasant holdings; the former were severely handicapped by labour shortage and the interest of the latter could not be aroused sufficiently. The work completed by the sugar company and mentioned in the Report for 1941 has been

maintained, and is proving a useful demonstration to peasant landowners in the locality: further work can be expected from this company and possibly from a few other progressive estate owners as soon as labour conditions become more normal. Better progress among peasant proprietors is hoped for when the complement of field staff, provided under Development and Welfare, is appointed.

49. The Department's acre demonstration plot at Morne Giraud, started in 1940, illustrates the advantages to be gained from soil protection measures; good crops of yams, potatoes and legumes were obtained. Some 35 acres adjoining this plot will be taken over next year to enable soil conservation to be demonstrated on a larger scale. The Allotment Scheme at Canaries has had another successful year under regular supervision by this Department.

50. Measurements of the dry season flow of the Union River were taken again from 5th January to 2nd May; the average daily flow during this period was 389 gallons per minute.

(c) *Forest Conservation:*

51. Two forest patrols are permanently employed in preventing trespass and forest offences in the Crown forest areas. Numerous forest offences were committed during the year due to the active demand for timber and building materials of all kinds and squatting habits. A revised Crown Lands Ordinance and Regulations came into force, and prosecutions were brought under this legislation. A combined Forest, Land and Water Preservation Ordinance and Regulations are urgently required, but such legislation is being held in abeyance pending an investigation into local forest problems by a qualified forestry officer, whom it is hoped will be appointed soon.

52. Reafforestation in the important catchment areas of the interior progresses on a limited scale; some 3,746 trees (mainly Honduras mahogany, Laurier sp., Bois d'Amand and Sapucaia nut) were planted, and 200 trees replanted. Large supplies of mahogany were available in the nursery, but limited funds and shortage of labour and supervision curtailed the work. To assist in reafforesting abandoned gardens in catchment areas, selected tenants are being allowed to plant specified crops in the gardens until the trees have grown sufficiently to resist weed and vine competition.

53. An important achievement was the grant of £1,650 from Development and Welfare Funds to enable all vacant lands in the Colony to be properly surveyed and escheated, although this work will probably take some time to complete.

54. The increasing demand for charcoal and fuel has resulted in further timber cutting on the dry, exposed and eroded hillsides of the northern and windward districts. At the end of the year fuel was being sold for around 16*s.* per cord in Castries, and charcoal at 2*s.* 6*d.* per bag.

Importation of Foodstuffs.

55. Several of the principal items of imported foodstuffs show an appreciable reduction in importations during 1942 as compared with the previous year, due mainly to the lack of shipping and, in some cases, to the shortage of supplies; exceptions occur in the case of canned and preserved meats and tinned milk.

56. As a result of these restrictions and difficulties better use was made of local foodstuffs, the consumption of which was thereby greatly increased. Fortunately supplies were at all times adequate for local requirements.

57. By the end of the year the food production effort had improved further to strengthen the drive for greater self-sufficiency.

WORK IN THE DEPARTMENT OF AGRICULTURE.

Plant and Seed Introduction etc.

58. Introduction of planting material during the year comprised 15 lb. and 21 packets of seed, and 51 cuttings comprising 11 new sugar cane varieties; in addition supplies of vegetable seeds for local sale were maintained as permitted by rather infrequent shipping opportunities.

Details are as follows :—

Tomato "Pan America"	1 packet seed	United States Department of Agriculture. [Trinidad.
Demerara Primrose	1 ,, ,,	Government Stock Farm
Ipomoea sidoefolia	1 ,, ,,	do.
Ipomoea pterodes	1 ,, ,,	do.
Bidens leucanthus	1 ,, ,,	do.
"Donkey eye"	1 ,, ,,	do.
Alysicarpus rugosus	1 ,, ,,	Imperial College of Tropical Agriculture, Trinidad.
Brachiaria dictyoneura (Sheep grass)	1 ,, ,,	do.
Paspalum dilatatum (Dallis grass)	1 ,, ,,	do.
Melinis minutiflora (Wynne grass)	1 ,, ,,	Department of Agriculture, Jamaica.
Peltophorum ferrugineum	1 ,, ,,	Imperial College of Tropical Agriculture, Trinidad.
Sugar cane (11 varieties)	51 cuttings	Port-of-Spain, Trinidad.
Albizzia lebbek	1 lb. seed	Department of Agriculture, Barbados.
Guinea corn	4 lb. seed	do. [Jamaica.
Pithecolobium filicifolium	1 packet seed	Department of Agriculture,
Musk melon	1 ,, ,,	Puerto Rico.
Cupressus benthami	1 ,, ,,	Guatemala.
Synsepalum dulcificum	1 ,, ,,	Canal Zone.
Grevillea robusta	1 ,, ,,	East African Agricultural Res. Station, Amani.
Lima beans, Illinois Large Podded	1 ,, ,,	United States of America.
Bush beans, "Plentiful"	3 ,, ,,	do.
Soya bean, Venezuela cream	3 lb.	Imperial College of Tropical Agriculture, Trinidad.
Brazil nut	2 lb.	Department of Agriculture, Trinidad.
Tobacco (Kentucky No. 48)	1 packet	United States of America.
Honduras Mahogany	5 lb.	Forest Department, Trinidad.
Yellow poui	4,000 seeds	do.

59. The plant Inspection Service dealt with a total of 7 importations exclusive of those mentioned above; all were admitted. 4 certificates of inspection were furnished for planting material leaving the Colony. A new Fumigatorium, with Incinerator, was completed early in the year, and is situated on the wharfside.

60. The distribution of planting material from the Department's Plant Nurseries during 1942 is shown below :—

	Plants.	*Cuttings.*	*Seeds.*
Budded limes ...	3,009	...	...
Other citrus* ...	2,566	...	...
Cacao, coffee and spices ...	1,879	200	335
Cane	...	900	...
Fodder and pasture plants and grasses	1,303	31,300	1 oz.
Economic and food crops ...	7,904	1,825	29 lb. 6 ozs.
Timber and economic trees ...	1,259	11,180	...
Ornamentals	2,153	...	...
Miscellaneous	150	40	4 ozs.

* Includes 750 Sour Orange seedlings and 450 wild Grapefruit seedlings mainly for nursery work.

Work at the Union Agricultural Station.

61. The maintenance of seed supplies and the provision of planting material in connection with the food planting campaign were the main features of the year's work; observations on the main crops are given below :—

62. *Yams.* An increased area was devoted to this crop; apart from slight damage due to flooding in May growth was satisfactory, the main varieties giving the following average per acre yields :—Chinese or Potato 16·5 tons; Lisbon 12·0 tons; "Piquant" 13·0 tons. Other varieties grown were Hunt, Portuguese, Coconut Lisbon, Horn, "Red yam", Water yam, "Maubie Lisbon" and "A tous temps".

63. *Sweet Potatoes.* The selected varieties mentioned in last year's Report were maintained and a fair area was under this crop at the end of the year.

64. Adlay (*Coix lachryma—jobi*) : Two plots planted late in 1941 were reaped early in the year and gave a yield equivalent to 1,200 lb. per acre; work with this crop continues as it forms a useful poultry feed when maize is unobtainable.

65. *Maize.* Indifferent results were obtained from early plantings, but plantings at the end of the year show promise : the control of fall army worm continues to be a problem, and weekly sprayings with lead arsenate were necessary in order to obtain even a fair stand.

66. *Papaw* : An area was planted to papaw in order to provide material for investigations in the production of papain.

67. *Kudzu Vine* : Growth in this plot continued slow; it is of interest to note that this plant has been found growing luxuriantly elsewhere on the Station and in one of the sugar valleys, evidently from an introduction circa 1924.

68. *Wynne Grass* : A small plot was planted and made a fair start, yielding at seeding time the equivalent of 21 tons of green fodder per acre : subsequent growth both at the Station and on a private estate has been both slow and disappointing, indicating that this grass is not suited to the low elevations.

69. Sheep Grass (*Brachiaria dictyoneura*) : A new introduction originating from Australia; it shows promise as a pasture grass on the drier eroded "pastures" of the Colony.

70. *Derris Elliptica* (*Amani Strain*) : Good growth was made and the area has been extended; the yield of roots from a small plot was submitted to the Imperial Institute for report; the report, received early in 1943 is definitely encouraging, showing "a satisfactory rotenone content of just over 5 per cent., and comparable with the usual commercial consignments of derris". Roots up to 1 inch in diameter were rich in rotenone (6.47—9.20 per cent.).

71. Other crops grown for observation and multiplication comprised the following :—

Tepary bean : Yields were not up to the standard of 1941, and it seems doubtful whether this crop can be successfully cultivated in this Colony.

Soya bean : Weather conditions were unsuitable for this crop, resulting in poor growth and negligible yields.

Cow peas: Dixie Queen was out-yielded by a variety imported from St. Vincent; this latter variety has been rapidly extended and has so far proved entirely satisfactory, although the seed is small.

Barbados Squash: This variety, together with *Musk Melon* (mildew resistant) from Puerto Rico was interplanted through yams: growth and yields of both were excellent.

Pigeon peas: In spite of good growth yields have been poor due to the attacks of pod borers; this is a serious food crop pest.

Guinea corn: Seed from Barbados made extravagant growth due to very wet conditions, but did not set seed.

The Citrus Orchards were maintained with the minimum of expenditure in view of the impending Dairy Scheme: yields were only fair and much reduced by bird and moth damage.

Mangoes were maintained and cropped well, again with the exception of Eununa.

The Sugar Cane Variety section was maintained; additions and discards were made in accordance with the recommendations of the B.W.I. Central Cane Breeding Station.

72. Silage trials were started in October with a view to providing fodder during the dry months; Guatemala grass, Elephant grass and Uba cane were used in these trials.

73. The Vegetable Section was fully cropped during the year; mention must be made of the discouraging effects of pest attack, chief of which are the pigeon pea borer already mentioned above, and the mole-cricket.

Government Stock Farm, Union Station.

74. Addition to the breeding stock of the Station comprised 2 Large Black sows selected from litters bred on the Station, one (1) pair of Flemish Giant Rabbits and a pen consisting of 1 cock and 4 hens of Rhode Island Red (dark strain) poultry from Trinidad.

75. Swine Fever quarantine was maintained throughout the year.

76. Two old sows considered unsuitable for further breeding were sold for slaughter.

77. Two litters were obtained from the Flemish Giant Rabbit; the services of the buck were much in demand.

78. Thirty-three Large Black piglings were farrowed during the year; sixteen—8 males and 8 females—were sold, two females were retained for the Farm, and there were 2 deaths, leaving a carry-over of 13 for distribution in 1943. The demand for these animals continues.

79. The areas under Guatemala grass and Uba cane were maintained, and approximately one-quarter acre of Sugar cane variety B. 34104 was planted.

80. The station now has three local and 1 half-bred jenny donkeys, together with a half-bred colt and filly; a half-bred colt was born during the year and is making good progress.

81. The newly introduced Rhode Island Red poultry made satisfactory progress; during the 9 months April to December a total of 390 eggs was laid, of which one hen—No. 4—laid 117 eggs averaging 2.4 ozs. in weight; the average weight of all eggs was 2.04 ozs. Maintenance costs worked out at 1.2 pence per bird per day; the cost per egg being 4.17 pence; in the light of experience gained it will be possible to reduce considerably in feeding costs in the future; arrangements are under way to raise further breeding stock from the best hen in order to augment the supply of eggs for which there is a lively demand. The moulting season, during which the cock was removed from the hens, lasted from June to August inclusive.

82. The return of tours and station services is set out below:—

——	Station Services.	Tours.	Days on Tour.	Outstation Services.
Stallion, Millersdale	20	1	154	27
¾ Holstein-Zebu Bull ...	10	2	210	23
Sussex Bull	24	1	107	6
Jack Donkey	19	2	58	10
Large Black Boar No. 1 ...	8	—	—	—
Large Black Boar No. 2 ...	—	1	365	—
Buck Rabbit	39	—	—	—

Plant Nurseries.

83. The Departmental Nurseries at Rabot, Barre-de-l'Isle and Union were engaged in the propagation of citrus and other economic crops for distribution; the Quilesse Nursery raises seedlings of local and introduced forest trees for annual reafforestation work. Soil conservation received due attention in each nursery.

Pests and Diseases.

84. Mr. R. G. Fennah, M.A., A.I.C.T.A., F.R.E.S., was appointed as Food Crop Pests Entomologist, Windward and Leeward Islands, for a period of three years from 1st January, 1942. His investigations are aimed at establishing practical methods for controlling the major insect pests of food crops in these islands.

85. The principal crops were fairly free from pest and disease incidence throughout the year. Vegetable growers, particularly on a large scale, experienced losses and setbacks to cabbage cultivation through caterpillars of the Diamond-backed moth (*Plutella maculipennis*) and to other vegetables from mole-cricket damage, especially during the less favourable growing period from April/May to October/November; lead arsenate spray has been recommended for use against the caterpillars but is reported to have been only partially successful, a simpler and cheaper method of minimizing losses to newly transplanted seedlings by mole-cricket is to wrap each plant in a small leaf of Galba (*Calophyllum* sp.). Pigeon peas were severely attacked by several species of pod boring caterpillars. Scarabee was prevalent in fields of sweet potatoes in several areas of the south-western districts causing appreciable losses. Trials conducted at Union Station where the pest was also found, have so far proved the efficacy of three sprayings with a lead arsenate mixture at intervals of 4 weeks commencing about 4 weeks after the slips have been planted.

86. Pink Bollworm appeared in cotton in the south-western districts in February, but it appeared too late to damage the crop. Prompt uprooting and burning of the cotton crop, followed by a four months' close season appears to have checked the pest, as it has not been observed again as yet.

87. Panama Disease (*Fusarium cubense*). In view of the partial disorganisation of the inspection staff due to urgent work in connection with Swine Fever and compulsory food planting legislation, figures obtained in the 1942 survey are not considered reliable enough for publication. There has been, however, a very significant increase in the percentage of infection in both "old" (over 3 years) and "new" gardens.

Agricultural Extension and Education.

88. Regular contact was maintained with the peasantry in all districts of the Colony, and advice and assistance was given on agricultural and rural matters wherever possible, but more field staff is required to cope with the expansion of this work if satisfactory results are to be achieved.

89. The top-working and grafting of mango and citrus seedling stocks for peasant proprietors and others was continued and, during 1942, 254 mangoes were top-worked or grafted to the Julie variety, and 44 citrus stocks were grafted or budded to recognised orange varieties.

90. The Canaries Allotment Scheme and the Rice Allotment Scheme near Vieux-Fort had another successful year, useful quantities of foodstuffs being harvested. An allotment scheme comprising eight $\frac{1}{2}$-acre plots was commenced at La Toc near Castries in August; four Crown estates in other parts of the Colony have varying areas of land which it is hoped to sub-divide into food allotments next year, but their subsequent and essential adequate supervision will be impossible until additional field staff is available.

91. The Pupil Teachers' Examination in Agriculture was held in August, and a total of 14 teachers was examined. The Teachers' Certificate Examination in Nature Study was held in December, and a total of 12 teachers was examined. Reports on the results were submitted later to the Inspector of Schools. The annual short course in Agriculture to teachers was held during August; the attendance was fairly good and keen interest appeared to be shown in all aspects of the course.

92. The thirty-fourth annual examination of the Primary Schools in Agriculture was conducted by the agricultural officers and a report submitted to the Inspector of Schools. Owing to the lack of adequate staff, six schools which did not have proper gardens were not examined this year. Further progress, though limited, was made in the proper lay-out of school gardens on soil conservation lines. Working tools, planting material, small stock for prizes and other equipment was purchased from the vote of £20 now provided in the Estimates of the Department for this purpose. Supplementary assistance totalling £70 (£50 for tools etc.; £20 for purchase of prizes) was also obtained from Development and Welfare Funds, and has been of great assistance in providing further essential equipment to the Schools. Six goats have been obtained for distribution to the prize-winning schools in 1942.

93. The Babonneau School in particular has displayed keen interest in the Young Farmers' Club Movement, and the enthusiasm of the teachers and members augurs well for the future. One or two other schools have made a more modest beginning and will be able to extend their activities in the near

future, but further development and progress must await adequate advisory staff.

94. The Babonneau Young Farmers' Club paid two visits to the Union Agricultural Station during the year, and one visit was paid by the staff and agricultural class of the Castries Anglican School. The Girl Guides also spent an afternoon at Union in August to attend a food production demonstration and to see other branches of activity.

95. Four agricultural apprentices (2 seniors and 2 juniors) were in residence at the Union Agricultural Station during the first quarter of the year, but one junior apprentice left at his own request in April; the seniors successfully completed their course at the end of the year.

Publications, Correspondence and Organisations.

96. Memoranda were prepared on the sugar, coconut, cocoa, banana and fishing industries for the Commissioner of Agriculture, Trinidad, the American Consul and the Director of Fisheries Investigation. An article on "Guatemala Grass as a Fodder Crop in St. Lucia" was prepared by the Assistant Agricultural Superintendent and appeared in "Tropical Agriculture", Vol. XIX, No. 10. A leaflet was prepared on food production for local distribution, also a Vegetable Cultivation Chart and a Breeding Table. In addition the usual annual and monthly returns were furnished.

97. 964 incoming letters, 843 outgoing letters and 259 Minute Papers (involving 383 replies) were dealt with during the year.

98. A large number of bulletins and reports were regularly received from Departments of Agriculture and other Agricultural Institutions in all parts of the world, and these are gratefully acknowledged.

99. The Agricultural Superintendent or the Assistant Agricultural Superintendent attended numerous meetings during the year. A considerable amount of time was spent by the staff of the Department in connection with appraisement work in the acquisition of lands for the U.S. Air Bases by the U.S. Bases Compensation Committee (of which the Agricultural Superintendent is a member).

Official Visitors.

100. Dr. H. Brown, Director of Fisheries Investigation, and Messrs. C. R. Lucas and M. J. Lobell, of the United States Fish and Wildlife Service, visited the Colony from the 6th—8th May, investigating local fishing problems.

Legislation Affecting Agricultural Industries.

101. New Legislation passed during 1942 was as follows:—

Animal Disease (Amendment) Ordinance No. 2 of 1942—to amend the Animal Disease Ordinance, 1935.

Plant Protection Ordinance No. 12 of 1942—to provide for the prevention, eradication and control of diseases and pests affecting plants.

Statutory Rules and Orders No. 5 of 1942—Defence (General Control of Industry) (Slaughtering of Female Cattle) Order—licence.

Statutory Rules and Orders No. 7 of 1942—Sugar Control (Quota and Local Consumption) Order—sugar, molasses, cane farmers.

Statutory Rules and Orders No. 16 of 1942—Cotton Ordinance Close Season (Areas)—Gros Islet, Choiseul, Laborie, Vieux-Fort, Micoud, Praslin. 1st May to 31st August, 1942.

Statutory Rules and Orders No. 54 of 1942—Silk Cotton and "Bois flot" (Destruction) Regulations—compulsory.

Statutory Rules and Orders No. 77 of 1942—Sugar Control (Quota and Local Consumption) (Amendment) Order—unrefined sugar quota to be retained in the Colony.

Statutory Rules and Orders No. 45 of 1942—Defence (Food Production Control) Order—duty to plant, conditions.

Statutory Rules and Orders No. 24 of 1942—Defence (General Control of Industry) (Slaughtering of Female Cattle No. 2) Order licence, sale of carcase.

Statutory Rules and Orders No. 79 of 1942—Labour (Minimum Wage) (Agricultural Labourers) Order.

Statutory Rules and Orders No. 82 of 1942—Plant Protection Regulations—general, imports, exports, forms.

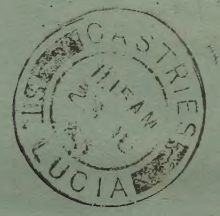
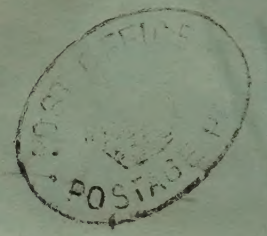
Statutory Rules and Orders No. 83 of 1942—Plant Protection Proclamation—Panama Disease notifiable.

1943—B. 14.

	J	F	M	A	M	Ju	Ju	Au	Sep	Oc	No	De	Total	Maximum in one day and date.		No of days of rain.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.		
Gros Islet Village ..	2·81	3·87	1·52	4·80	4·09	8·15	10·01	6·50	18·47	9·91	21·18	5·91	97·22	8·50	15th Sept.	219
Cap Estate ...	2·28	2·88	1·33	5 12	3 15	4·82	8·74	5·02	9·14	6·79	16·30	5·79	71·36	4·80	23rd Nov.	151
Castries, Corinth ,, ...	4·39	4·64	3·21	6·56	6·39	9·10	14·31	8·41	16·68	12·73	20·35	8·68	115·45	6·55	,,	213
Marquis Estate ...	2·34	5·03	2·08	5 95	8·60	10 35	10·01	3·94	10·60	12·04	17·63	6·31	94·88	6·10	,,	122
*Union Experimental Stn.	3·60	4·71	2·39	5·56	6·10	9·48	11·01	4 51	15·01	11·71	19·49	8·00	101·57	7 45	22nd Nov.	245
Choc Estate ..	2·93	3·32	·45	5·26	5·31	7·42	9·97	6·33	15 55	11·66	21·20	7·85	97·25	7·13	,,	147
*George the V Park ...	4·35	4·24	2·77	6·49	7·37	9·57	14·42	7·22	18·75	13·70	18·14	9·67	116·69	5·65	16th Sept.	229
†The Barracks, Vigie ..	3·40	3·45	2·17	5·00	2·17	9·42	14·76	3·92	19·17	10·82	15·78	...	90·06	6·85	15th Sept.	172
Soucis Est., Cul-de-Sac	4·21	4·73	2·41	8·94	6·40	12·39	15·01	8·42	15·83	15·56	20·60	9·25	123·85	5·50	16th Sept.	174
Crown Lands Est., ,,	5·14	5·02	3·94	11·15	10·00	13·45	16·84	9·73	17·72	13·19	26·35	11·00	143·53	6·00	,,	203
Mont D'Or Est., Roseau	3·39	2·46	2·19	4·77	2·18	10·87	15 09	10·37	14·25	13·22	25·50	8·80	113 09	3·80	24th Nov.	196
Belair Estate, ,, ...	2·37	2·83	1·02	4·79	4·70	5·63	10 41	6·26	11·37	8·20	14·61	6·37	78·56	3·50	15th Sept.	229
Vanard ,, ,, ...	4·52	4 35	2·46	4 72	9·10	12·30	16·62	7·97	17·54	12·64	19·40	8·01	119·63	4·95	23rd Nov.	169
Roseau ,, ,, ...	2·09	2·34	1·39	4·38	7·37	8·50	12·50	6·80	14·59	12·73	14·64	6·45	93·78	5·29	,,	180
*Barre de l'Isle Nursery	7·57	6·86	3·56	7·35	12 78	8·99	17·14	8·29	16·77	21·52	31·08	10·37	152·28	...	...	...
Soufrière, La Perle Estate	3·95	4·49	1·65	4·32	4·13	9·82	14·29	13·63	14·91	16·13	13·53	7·72	108·57	4·55	22nd Aug.	202
Ruby Estate ...	3·02	5·75	1·45	1·83	5·70	7 03	13·88	9·29	18·34	14.41	11·94	7·24	99·88	4·39	23rd Aug.	156
Union Vale ,, ...	4·56	3·09	1·75	2 15	7·22	5·67	14·03	5·88	16·02	23·62	18·44	6·28	108·81	6·91	6th Oct.	196
Beausejour ,, ..	4·62	3·26	3·08	3·63	8·20	8·80	16·76	10·50	16·48	16.00	20·46	10·90	122·79	4·85	23rd Nov.	290
Belle Plaine ,,	4·53	4·78	3·43	3·43	7·39	10·20	17·33	11·57	18·06	17·96	21·33	11·00	131·01	5·00	,,	284
Rabot Estate ...	3·69	4·79	2·49	3·61	6·69	8·16	18·31	11·69	18·18	17·42	12·44	8·84	116·31	3 69	,,	257
*Rabot Nursery ...	3·35	4·39	2·20	3·14	6·83	9·52	17·52	10·72	17·47	15·14	10·15	8·13	108·56	3·27	16th Sept.	256
*Quilesse ,, ...	6·11	7·57	5·01	7 84	21·03	11·25	15·66	13·94	21·83	21·66	31·55	12·61	176·06	15·08	3rd May.	282
Choiseul, Morne Lezard Est.	3·25	2·22	1·79	2·49	7·83	5·45	10·95	4·71	10·98	14·49	16·06	8 99	89·21	5·00	2nd May & 31st Oct.	113
Park Estate ...	4·26	2·91	2·58	3·11	6·15	6·21	12·42	8·95	13·06	14·29	19·47	9·17	102·58	5·40	24th Nov.	259
Woodlands Estate ...	4·99	3·14	4·42	18·21	11·87	10·15	15·64	9·18	18·65	10·31	23·31	10·70	140·57	9·20	30th April	260
Londonderry Estate ...	5·65	2·15	2·15	2·40	9·30	6·12	10·65	4·53	11·40	15·45	16.57	7·49	93·86	4·70	31st Oct.	136
Balembouche Estate ...	1·66	·93	1·66	1·20	6·24	7·84	9·42	4·67	10·63	9·38	10·49	6·29	70·41	4·80	,,	86
Laborie, Giraud Estate ...	4·12	3·00	3·75	3·73	9·03	8·27	10·80	8·40	15.50	16·30	20·09	7·95	110.94	5·40	,,	142
Black Bay Estate ...	2·47	1·54	2·02	3·13	6·97	6·38	9·96	4·82	3·57	9·35	12·02	5·62	67·85	3·30	,,	184
Vieux-Fort, Moule-à-Chique	1·19	1·74	·89	2·32	1·90	5·15	9·16	3·16	10·87	10·95	8·54	3·73	59·60	3·93	,,	116
St. Urbain Plantation...	1·40	2·21	2 07	3·58	4 51	6·21	11·19	5·79	10·27	8·19	9·96	4·72	70·10	3 70	,,	122
Retraite Estate ...	2·39	1·99	1·65	3·45	5 09	5·94	6·70	4·65	7·00	9·91	11·14	5·23	65·14	3·22	,,	107
Beasejour Estate ...	2·02	2·13	2·00	3·93	4·73	6·86	9·92	4·22	8·97	8·79	12·71	3·97	70·25	3·00	,,	120
La Tourney ,, ...	·94	1·39	·56	2·78	2 34	4·90	6·89	2·47	6·30	6·68	11·94	1·94	49·13	3·10	23rd Nov.	90
Micoud, Troumassée Est.	3·30	3·15	·20	3·50	7·35	6·75	10·25	3·50	13·60	10·08	20·95	4·15	86·78	6·25	22nd Nov.	70
Mamiku Estate ...	2·76	2·85	1·05	7·67	4·11	6·60	8·52	6·49	10·25	13·49	19·17	5·28	88·24	4·63	23rd Nov.	229
Fonds Estate ...	2·58	2·78	1·46	7·84	4·09	8·58	9·97	5·28	10·20	12·39	22·24	5·62	93·03	5·92	,,	233
Dennery, Prospect Est. ..	4·30	4·73	2·04	7·42	14·33	9·75	13·01	7·09	12·86	15·89	28·05	9·11	128·58	7·21	22nd Nov.	282
Border Estate ...	4·07	4·99	2·40	7·31	13·95	11·69	23·30	7·25	19·67	24·07	39·29	11·10	169 09	5 44	16th Sept.	292
La Cayé Estate ...	3·89	4·11	1·39	6·21	5.80	5·97	7·80	2·64	14·34	14·40	21·15	6·22	93·92	5·30	24th Nov.	178
Ressource Estate ...	2·77	3·20	2·17	5·64	14·12	8·42	11·77	4·39	11·60	14·16	21·79	6·41	105·44	7·22	2nd May	277

*Departmental. † Record not complete. Discontinued.

Maxima== Quilesse Nursery. 176·06 15·08—3rd May. Border Estate. 292.


CASTRIES
ST. LUCIA

POSTAGE